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Article

Determinants of Disaffiliation: An International Study

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Abstract: Using a dataset of 15,000 subjects from 32 Western countries, the current study examines individuals who were raised in a certain religion and, at some stage of their lives, left it. Currently, they define their religious affiliation as 'no religion'. A battery of explanatory variables (country-specific, personal attributes and marriage variables) was employed to test for determinants of this decision. It was found that the tendency of individuals to leave their religion—the most extreme symptom of secularization—is strongly correlated with their liberal beliefs and with parental and spousal religious characteristics. Moreover, country characteristics, as well as personal socio-demographic features seem to be much less relevant, except for the religious diversity of the country that has a positive effect on disaffiliation.

Keywords: national aggregates; disaffiliation; Europe

1. Introduction

Religion and religiosity (like other cultural traits) affect numerous dimensions of the individual's socio-economic behavior: educational attainments [1–4]; labor force participation [5]; occupation [6]; income [7,8]; marriage and inter-faith marriage [9]; fertility [5,10–14]; as well as attitudes that are also

related to the labor market and other economic and social performance, such as attitudes of trust and risk [15,16], attitudes of cooperation [17] and work ethics, honesty and thrift [18]. Guiso *et al*. [19] provide a general overview of the effect of religiosity on economic attitudes. It follows that secularization is responsible for changes in socio-economic phenomena, such as: fertility, marriage patterns, female labor force participation and more. Understanding the patterns and determinants of secularization[1] is therefore linked to a better understanding of socio-economic performance.

The paper provides evidence about a relatively unexplored extreme symptom of secularization: disaffiliation (converting out).[2] It is a wide-spreading phenomenon. For instance, based on our sample, in Great Britain, 39% who were raised in a religion left it at some stage in life and currently define their religious affiliation as 'no religion'. The parallel figure for Germany is 20%. Obviously, a better understanding of the determinants of disaffiliation can help in forecasting future trends and their effects on economic outcomes.

In order to identify the individuals who stepped out of their religious affiliation and to find out what are the factors that significantly affected this drastic move, a battery of explanatory variables was employed. The set included: (i) *country-specific aggregates*[3]: pluralism index, existence of state-religion, national average level of mass attendance and, finally, per-capita GDP; (ii) *personal attributes* that include: childhood and parental religious background, socio-economic and demographic personal determinants and attitudes and beliefs and (iii) *marriage effects*: marital status and spouse's religion (for married individuals).

The data used for the empirical analysis were drawn from the module on National Identity of the 1998 International Social Survey Program (ISSP): Religion II. The ISSP is an ongoing effort devoted to cross-country data collection on national attitudes. It includes questions on attitudes, beliefs and opinions on various issues, as well as numerous questions regarding the individual's socio-economic background, together with information on parents and spouses. 15,000 individuals were sampled all around the world.[4]

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1 The literature on secularization is large and extensive. [20–25] are some basic references. It covers diverse aspects, such as: (a) differentiation of society's major institutions (law, politics, economy, education, *etc*.) from religious influence; (b) rationalization [26,27]; (c) demystification of all spheres of life; and (d) less adherence to religious acts, such as attendance of religious services and prayer. See [28] for an inventory of the elements of the classic theories of secularization. Sommerville [24] sorted out the different aspects of secularization and divided them into two categories: those presented in terms of processes (like decline, differentiation, disengagement, rationalization) or in terms of aspects of life or levels of analyses (structural, cultural, organizational, individual).

2 The terms 'converting out' and 'disaffiliation' will be used (interchangeably) for individuals who were raised in a religion and now define their denomination as 'no religion'. It is obviously an extreme act of secularization.

3 Religiosity is affected by country-specific aggregates, such as: economic development and political institutions [18]; country religious pluralism and government restrictions on religious conversion [29]. In a study of 40 countries, Barro *et al.* [29] did not however find significant effects of per-capita GDP, the presence of a state religion and the extent of religiosity on conversion rates.

4 The sample includes: Australia, Austria, Bulgaria, Canada, Chile, Cyprus, Denmark, France, West Germany, East Germany, Great Britain, Hungary, Japan, Israel, Italy, Ireland, Latvia, New Zealand, Northern Ireland, Norway, Poland, Portugal, Russia, Sweden, Slovenia, Spain, Switzerland, The Czech Republic, The Netherlands, The Philippines, The Slovak Republic and The United States. It appears that the samples of Australia, Cyprus and Israel do not include any respondent who disaffiliated.

Most of these countries are predominantly Christian (Catholic, Protestant, Orthodox and other Christian faiths); a small share of respondents grew up as Jews or as Moslems; and about 1% were raised in other non-Christian religions (see Table 1 for details). The data cover the European and Australian continents, as well North America. The African continent is excluded, and South America and Asia are represented by a small number of countries (Chile, Japan, Israel and the Philippines). The research is therefore pertaining to Europe, North-America and Australia and a few other countries. In addition, the more homogenous European and non-European subsamples are analyzed separately, and the results for the larger sample are compared with the results for these subsamples.

Table 1. Sample characteristics.

	All countries		Europe		Non-Europe	
	Female	Male	Female	Male	Female	Male
DEPENDENT VARIABLE						
Converted out (%)	9.2	13.5	10.4	15.7	4.6	6.0
INDEPENDENT VARIABLES						
COUNTRY VARIABLES						
European country (%)	79.6	78.0	-	-	-	-
Pluralism index (range of 0–1)	0.37 (0.25)	0.37 (0.25)	0.33 (0.24)	0.34 (0.24)	0.50 (0.26)	0.50 (0.29)
State-religion (%)	32.4	31.7	35.0	34.8	22.5	20.6
Average country church attendance (att.)	2.15 (0.78)	2.13 (0.77)	2.11 (0.76)	2.08 (0.76)	2.35 (0.79)	2.34 (0.79)
Per capita GDP (US$)	15494.14 (10319.1)	15942.90 (10486.8)	15361.43 (10250.3)	15761.74 (10381.1)	-	-
PERSONAL ATTRIBUTES						
Religious denomination (raised in)						
Catholic (%)	57.2	55.1	64.1	59.5	39.4	39.9
Jewish (%)	4.3	4.3	0.1	0.2	21.0	18.9
Moslem (%)	0.8	1.4	0.6	1.0	2.1	2.9
Protestant (%)	27.8	28.6	24.4	28.6	29.5	28.4
Orthodox (%)	7.7	7.4	9.8	9.4	0.2	0.2
Other Christian (%)	1.3	1.6	0.7	0.9	4.0	4.1
Other non-Christian (%)	0.9	1.6	0.3	0.4	3.8	5.6
Religion homogamous house (%)	89.9	90.8	91.7	92.1	83.1	86.0
Intensive church att. at 12 (%)	56.8	50.6	56.5	50.0	57.7	52.9
Age	45.64 (15.17)	48.95 (15.21)	45.97 (15.25)	49.02 (15.24)	44.35 (14.78)	48.71 (15.11)
Last school attended						
Elementary (%)	25.1	24.4	27.5	26.0	16.1	18.4
High School (%)	39.7	39.5	38.6	39.1	43.9	41.1
Academic (%)	35.2	36.1	33.9	34.9	40.0	40.5
"Extramarital sex relations" view						
Always wrong (%)	67.9	59.0	65.2	55.3	78.3	71.9
Almost always wrong (%)	19.9	23.3	20.7	24.8	16.8	17.9
Wrong only sometimes (%)	8.9	12.1	10.2	13.5	4.0	7.3
Not wrong at all (%)	3.3	5.6	3.9	6.4	0.9	2.9

Table 1. *Cont.*

"Homosexual relations" view						
Always wrong (%)	53.5	59.0	50.9	56.2	63.5	68.6
Almost always wrong (%)	8.6	9.6	8.7	10.0	8.4	8.2
Wrong only sometimes (%)	11.3	10.1	12.0	10.7	8.6	8.1
Not wrong at all (%)	26.6	21.3	28.4	23.1	19.5	15.1
Believe in Heaven						
Yes, definitely (%)	37.2	29.5	32.7	25.0	54.5	45.5
Yes, probably (%)	28.4	24.4	29.3	24.1	25.2	25.3
No, probably not (%)	15.8	17.8	17.1	19.1	10.8	13.2
No, definitely not (%)	18.6	28.3	20.9	31.8	9.5	16.0
Believe in Hell						
Yes, definitely (%)	28.6	23.3	24.5	18.8	44.5	39.4
Yes, probably (%)	22.4	20.1	22.3	19.5	22.9	22.0
No, probably not (%)	20.3	21.0	21.3	22.0	16.5	17.6
No, definitely not (%)	28.7	35.6	31.9	39.7	16.1	21.0
Believe in Miracles						
Yes, definitely (%)	33.5	25.5	31.2	23.0	42.4	34.1
Yes, probably (%)	29.0	26.7	29.3	26.4	28.0	27.8
No, probably not (%)	17.6	19.5	18.1	19.9	15.6	18.1
No, definitely not (%)	19.9	28.3	21.4	30.7	14.0	20.0
MARRIAGE ATTRIBUTES						
Married (%)	85.6	89.2	83.9	88.1	92.2	93.2
Spouse has same religion as respondent was raised in (%)	79.4	81.8	79.5	81.5	79.0	82.9
Spouse has 'no religion' (%)	7.2	5.7	7.4	6.4	6.2	3.5
Sample Size	7895	7258	6287	5660	1608	1598

Standard deviations in parentheses.

To conclude, this paper offers a new perspective on the growing body of literature on the phenomenon of secularization, focusing on the most extreme evidence of secularization, namely, disaffiliation.

2. Dataset, Variables and Methodology

2.1. Sample and Dataset

The International Social Survey Program (ISSP) is a unique multidisciplinary and cross-country database of micro data on national attitudes. It includes questions on attitudes, beliefs and opinions on various issues, as well as numerous questions regarding the individual's socio-economic background. It also has rich data on the religiosity of parents, respondents and spouses.

The sample is composed of Christians: Catholics—48.7%; Protestants—23.7%; Orthodox—7.2%; a small share of respondents are Jewish (4.3%) or Moslem (1.1%); about 1.8% have other Christian religions; about 1.2% have other religions (e.g., Sikh, Buddhist, Hindu, Shinto); and 11.3% identify themselves as having 'no religion'.

Regressions were estimated using pooled country data, under the assumption that the effects of the independent variables are not different in the various countries included in the sample. The pooling of the data led to a very large sample (sample sizes within each of the countries were too small to allow a separate analysis for each country). Country-specific variables were used to identify and control for country effects.[5]

The analysis is replicated for the more homogeneous subsamples of European and non-European countries.

2.2. Variables

2.2.1. The Dependent Variable

This was defined using information derived from two questions: "*What was your religion when you were a child?*" and "*What is your current religion?*" It relates to disaffiliation and is defined as:

Disaffiliation = *1* for respondents who were raised in a religion and currently claim to have 'no religion'
= *0* otherwise

The last group includes those who were raised in a religion and currently have the same religion or a different religion. Those who were raised in 'no religion' were excluded from the analysis. This phenomenon is larger for males (13.5%) than for females (9.2%), and it is larger in Europe than in the whole sample. Some basic descriptive are shown in Table 1.

Several sets of variables were introduced in order to identify and explore the determinants of disaffiliation.

2.2.2. Country-Specific Variables

First, in order to capture possible differences in disaffiliation in European countries *versus* other countries (Japan, Israel, The Philippines, Chile, New-Zealand, Australia, Canada and the United States), due to different cultures, we define a dummy variable for respondents residing in European countries: *European country dummy.*

Second, we focus on religious competition (pluralism) and the existence of a state-religion (see [30]):

- The *P index represents religious pluralism* (diversity) and is defined as P = 1-HHI, where HHI is the Herfindahl-Hirschman index of concentration.[6] The larger P is, the more religiously diverse the country is said to be;
- The existence of *a state-religion*.[7]

Additionally, we add a variable that reflects country-level religious adherence:

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[5] Another option was to use fixed-effects regression models. The basic results for the core variables did not change when fixed-effects were used.

[6] Defined as $HHI = \sum_{i=1}^{n} s_i^2$, the sum of squares of the shares of the country's religious denominations. It follows that P ranges between 0 (if everyone belongs to the same religion) and (almost) 1 (if there are a large number of religions, each of which covers a negligible fraction of the population). See also [31,32], who refer to the same diversity/pluralism index.

[7] [33] provides a comprehensive country-by-country study on the adoption and abandonment of state-religions over time.

- The country *average level of church (religious services) attendance*: the variable "church attendance" is measured on a scale of 1-to-6, ranging from 'not attending at all' to 'attending at least once a week'.[8] Using this variable, the country average has been calculated. The country average is a continuous variable. Another indicator of the country-level religiosity is the *average prayer level* (scale of 1–11). However, adding this variable led to multicollinearity, due to a high correlation between country average church attendance and country-average prayer (a correlation coefficient of 0.84).

Finally, to control the country's level of development (see [20,34]), we add: *per-capita GDP*.

2.2.3. Personal Attributes

The ISSP-98 contains some basic socio-demographic questions for each responder:

- *Present age*: obviously, the more relevant variable is the age of disaffiliation and not the current age. Unfortunately, respondents were not asked when they converted out.[9] We also include age-squared to allow for a non-linear (parabolic) relationship;
- *Education*: last school attended; elementary (reference category); high school; and academic education institution.

Interestingly, the ISSP includes two questions about attitudes regarding norms of behavior:

- One is related to extra-marital sexual relations. The question's phrasing was: *for a married person to have sexual relations with someone other than her/his husband or wife is*: (1) always wrong (reference category); (2) almost always wrong; (3) wrong only sometimes; or (4) not wrong at all.
- The other question refers to homosexual relations: *sexual relations between two adults of the same sex is*: (same four options as above.)

The basic idea is that individuals who are more liberal are more prone to convert out and become non-religious. Additionally, churches condemn extra-marital and homosexual relations, and therefore, individuals who hold liberal views on these 'unmoral' issues may feel 'rejected' by the church and, consequently, have a higher tendency to disaffiliate.

Finally, the most important feature of the ISSP-98 is the battery of individual questions regarding religious performance:

- *Religious denomination* in which the subject was educated;

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[8] The term 'church' is used as a generic term that relates to the relevant religious place of worship (e.g., also synagogue for Jews, mosque for Moslems, *etc*.). The religious rules of congregation vary between religions (e.g., many orthodox Jews congregate once or even twice a day, while Christians congregate once a week).

[9] Nevertheless, current age embodies cohort effects: secularization was not common decades ago and has increased in recent years. Assuming that most individuals convert out in their 20s or 30s, because young people are more revolutionary, it follows that older people (e.g., above the age of 60) belong to a cohort of a period when secularization was less common and, therefore, have a lower tendency to disaffiliate.

- Using information regarding the religious affiliation of the father and mother, we defined the variable: raised in a *religious homogamous household*, that equals 1 if the father and mother had the same religion (when the respondent was a child);
- Information on exposure to church (religious) services during childhood, that includes nine alternative levels, was used to define the dummy variable: intensive *religious practice during childhood* = 1,[10] for original values of: seven (attended almost every week), eight (every week) and nine (several times a week).

The ISSP also includes a number of questions about beliefs in some basic religious doctrines:

- Belief in *heaven*;
- Belief in *hell*;
- Belief in *miracles*.

The question: "*do you believe in heaven/hell/miracles*" had four alternative answers—(1) yes, definitely (reference category); (2) yes, probably; (3) no, probably not; and (4) no, definitely not. It is assumed that non-believers have a higher tendency to leave their religion.

2.2.4. Marriage Effects

For this variable, we have three key measures:

- Marital *status* (married = 1; 0 otherwise);
- Spouse has the *same denomination* as the respondent was raised in;
- Spouse has '*no religion*'.

2.3. Method

The dependent variable, y_{ij}, is a dichotomous variable that equals 1 if respondent *i* was raised in any religion and currently has 'no religion' and 0 otherwise; the subscript, *j*, is the respondent's country index. The vector of independent variables, x_{ij}, includes the variables described in the previous section.

A logit random-effects model with a cluster-robust estimator of the variance-covariance matrix[11] was estimated:

$$P\left[y_{ij} = 1 \,/\, x_{ij}, \beta, \alpha_j\right] = \Lambda\left(\alpha_j + x'_{ij}\beta\right) \quad (1)$$

where $\Lambda(z) = \frac{e^z}{1+e^z}$; α_j is the country-specific random-effect that is assumed to have a normal distribution, $\alpha_j \rightarrow N(0, \sigma_\alpha^2)$.[12]

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[10] The ISSP question is: "when you were 12 years old, how often did you attend religious services?" The options are: never (1); once a year (2); one or two times a year (3); a few times a year (4); once a month (5); two or three times a month (6), almost every week (7); every week (8); several times a week (9).

[11] Standard errors at the country level were clustered. The random-effects (RE) model also considers the (*ceteris paribus*) different behavior of respondents from different countries that stem from the country-specific culture and norms. A RE model seems to be more appropriate than an FE (fixed-effects) model. Moreover, using an FE model does not allow for the inclusion of country-specific variables (that have no within-country variation), such as religious pluralism of the country (P), which are core variables in our study.

In the following, 'converting out' regressions were estimated separately for women and men. Given that the European dummy variable had a significant coefficient, expressing differences in disaffiliation between European and non-European countries, we also ran separate regressions for these subsamples.

3. Findings

3.1. Descriptive Statistics: Sample Characteristics

Before proceeding to report the results, the characteristics of the samples used for the regression analysis are described. Table 1 presents means of the variables used for the econometric analysis. They are presented for the female and male samples, and a distinction is also made between the larger sample and the European and non-European subsamples.

The means are similar for the general sample and the European subsample. Gender differences in each subsample are also small. Approximately 9% of the women and 14% of the men converted out: they were raised within a religion and currently claim to have 'no religion'. The figures are larger within the European countries (10.4% of the women and 15.7% of the men) and smaller within the non-European countries (4.6% of the women and 6% of the men). Interestingly, Shy [35], who processed data from the World Christian Encyclopedia [36] and calculated the percentage of secular people (non-religious and atheists combined) in Europe in the year 2000, arrived at a similar percentage, around 15% (Table 1, page 1, 130).

The somewhat lower percentage of women who converted out is in line with theories and findings of other studies showing that women are generally more religious [14,37–42].

The majority of respondents were raised in Christian denominations:[13] about 56% of respondents were raised as Catholics, around 28% grew up as Protestants and around 8% as Orthodox. About 1.2% were Moslem, 4.3% Jewish (0.1% in Europe) and 2.7% had other religions.

Focusing on those who converted out, the distribution of their original denominations is the following: Catholic—53.7%; Protestant—39.9%; Orthodox—2.9%; Jewish—0.3%; Moslem—0.3%; and 3% had other religions.

The countries are not very diverse in terms of existing religions: a pluralism index of 0.37 (0.33 in Europe) indicates limited diversity, being higher in non-European countries (0.50). Around one third of the countries have a state-religion. The average per-capita GDP in the sampled countries is 15–16 thousand US$.

An examination of the average levels of religious practice shows that despite rapid secularization, the populations are still adhering to mass services and even more so to prayer habits. The mass attendance average is above 2.1 on a scale of 1-to-6. The average prayer level is above 5.6 on a scale of 1-to-11, but is not included in the regression analysis, due to the high correlation with the mass attendance variable.

Women seem to be more religious in terms of belief in the religious doctrines of heaven, hell and miracles. However, a considerable percentage of the two genders do not believe in these doctrines:

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[12] The sign of the β estimates relates to the direction of the marginal effects (positive or negative). Based on the estimates of the β coefficients, odd-ratios will be calculated and presented.

[13] Data reported on page 4 refers to current religion (not the one a person is raised in).

about 32% (29% of the women and 36% of the men) do not believe in hell. This percentage is smaller for non-European countries (16.1% for women and 21% for men). Around 19% of the women and over 28% of the men do not believe in each of the other two doctrines. One can observe a kind of wishful believing: the percentage of non-believers in hell is much larger compared to non-believers in the two 'positive' doctrines. Brañas-Garza *et al*. [43] find that afterlife beliefs have a crucial role in religious performance for both females and males.

An examination of childhood religious background shows that close to 90% of the participants grew up in households where the two parents belonged to the same denomination. More than half of the respondents were exposed to intensive religious practice when they were aged 12 and attended church services on a regular basis.

Focusing on individuals currently married, we observe that over 80% have a spouse with the same religious denomination that the respondent was raised in, and around 7% have a spouse that declares having 'no religion'.

The socio-demographic characteristics of our sample are as follows: the age average is 47 years. Over 36% have an academic education (at least partial).

'Married' is still the most common marital status; about 87% of respondents are married. Over 24% consider that homosexual relationships are not wrong at all, but only about 4.4% think that extramarital sexual relations are completely acceptable. Interestingly, women are more liberal when it comes to homosexual relations and have a less liberal attitude towards extramarital sex relations.

3.2. Regression Results

Table 2 below presents logit "converting out" regressions for women and men for both the whole sample and the European and non-European subsamples. Recall that the dependent variable is dichotomous (taking the value 1 if the respondent was raised in a religion and currently has 'no religion' and 0 otherwise). The reported coefficients are the odd-ratios of the various variables[14].

Starting with the *country-specific explanatory* variables: the results indicate a significant difference in the tendency to disaffiliate between the larger samples and the European subsamples. Respondents who reside in a European country have a much higher probability to convert out compared to non-Europeans.

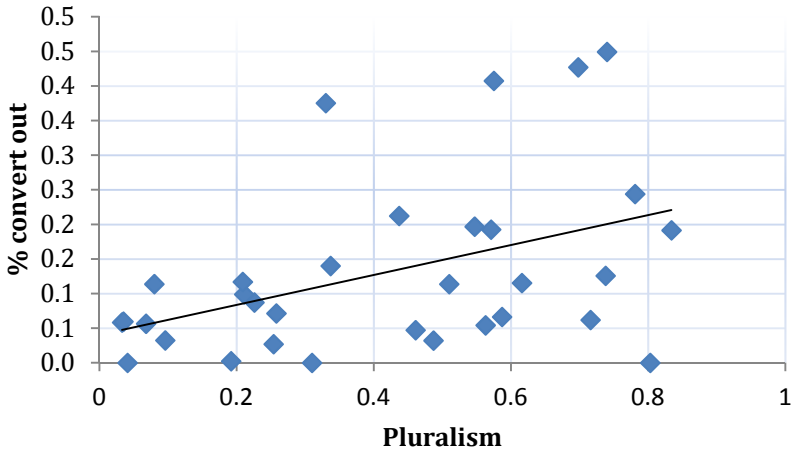
Figure 1 jointly plots the national means of converting out *versus* the pluralism index. There seems to be a positive relationship between these two country averages. Our data advocate that indeed there is a clear strong correlation between religious pluralism of a country and the tendency of its population to convert out and abandon any religious affiliation:[15] More religiously diverse countries have much higher rates of disaffiliation. This is evidenced by the positive effect of the religious pluralism index (odds-ratios of 10–11 for the whole sample and over seven for the European subsample; within the European sample, it is significant only at the 10% significance level). We can therefore conclude that

[14] For high correlation between GDP and the P-index in the no-Europe subsample, we have removed the first one of the regressions.

[15] Having state-regulation, however, does not affect the tendency to convert out.

our findings do not support supply-side theories.[16] Quite the contrary, we find clear evidence in favor of the demand-side, sociological approaches: a greater diversity does not stimulate greater religious participation, but rather secularization and disaffiliation.

Figure 1. Converting out as a function of religious pluralism.



National "religious capital", expressed by higher national averages of mass attendance, does not affect secularization. [17] In contrast to Weberian ideas, we find that national *economic development* (captured by per-capita GDP) is uncorrelated with converting out (the odds-ratios are equal to 1 and insignificant).

Regarding *personal attributes*, we see that the religious denomination the respondent was raised in (Catholic, as the reference) plays a minor role. Denomination effects are significant only for males. Men raised in the Protestant denomination have a lower tendency to convert out (compared to Catholics: odds ratio of 0.7 in the larger sample and 0.6 within the European subsample). On the other hand, men who were raised in the Orthodox or the 'Other Christian' denominations have much higher tendencies to convert out (odds ratios of over two). In the non-European subsamples, the findings are different. Moslem and Protestant women have a higher tendency to convert out.

Exposure to more homogeneous and intensive religious practice during childhood leads to a lower tendency to convert out and move to the 'no religion' sector: respondents who grew up with parents who shared the same religious denomination are less prone to convert out (odds ratios of about 0.8 for women and 0.6 for men); experiencing intensive church attendance at the age of 12 further reduces the probability to convert out (odds ratio of about 0.8 for women and 0.6 for men). Sherkat and Wilson [47] used the concept 'adaptive preferences' and claimed that socialization through childhood religious practice will create preferences upon which later religious choices will be made. It follows that more exposure to childhood religious socialization will decrease the likelihood of secularization later on in life.

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[16] The supply-side theory indicates that religious diversity would stimulate churches to 'produce' religious services well adapted to the needs of religious consumers, thereby increasing 'consumption' (see [44–46]).

[17] These results seem to indicate that consumption motives (churches are places where people can socialize) and professional motives (churches serve as social networks) are not important to individuals who decide to convert out.

Table 2. Logit regressions of disaffiliation (odds ratios).

		All countries		Europe		No Europe	
		Female	Male	Female	Male	Female	Male
COUNTRY-SPECIFIC VARIABLES							
a) Religious strictness							
Residence in a European country		**4.23** (0.030)	**7.29** (0.004)	-	-	-	-
Pluralism index		**10.54** (0.039)	**11.93** (0.04)	6.48 (0.065)	7.40 (0.093)	3.63 (0.886)	3722.72 (0.177)
State religion		0.70 (0.514)	0.81 (0.732)	0.86 (0.749)	1.00 (0.998)	0.00 (1.000)	0.00 (1.000)
b)Religious adherence							
Country average Mass		1.06 (0.865)	1.59 (0.212)	0.92 (0.803)	1.38 (0.369)	0.46 (0.778)	10.51 (0.193)
c)GDP/1,000		1.04 (0.075)	1.04 (0.100)	1.03 (0.142)	1.04 (0.115)	-	-
PERSONAL ATTRIBUTES							
a) Religion (raised in)							
Denomination	Catholic	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
	Jewish	0.48 (0.459)	0.37 (0.226)	0.00 (1.000)	2.14 (0.521)	7.84 (0.182)	0.00 (1.000)
	Moslem	1.42 (0.682)	0.96 (0.950)	0.53 (0.581)	0.59 (0.536)	**29.01** (0.017)	7.58 (0.105)
	Protestant	1.20 (0.197)	**0.71** (0.017)	1.02 (0.907)	**0.59** (0.001)	**2.65** (0.036)	2.11 (0.072)
	Orthodox	1.45 (0.422)	**2.85** (0.015)	1.25 (0.642)	**2.52** (0.044)	0.00 (1.000)	0.00 (1.000)
	Other Christian	2.27 (0.081)	**2.63** (0.011)	2.42 (0.071)	2.01 (0.090)	1.02 (0.994)	**24.40** (0.003)
	Other non-Christian	1.88 (0.277)	2.79 (0.060)	1.960 (0.319)	2.16 (0.220)	1.20 (0.950)	**36.44** (0.012)
Religiously homogamous household		**0.75** (0.038)	**0.55** (0.000)	0.81 (0.175)	**0.51** (0.000)	**0.38** (0.018)	0.86 (0.717)
Intensive church attendance at 12		0.80 (0.052)	**0.64** (0.000)	**0.78** (0.045)	**0.59** (0.000)	0.88 (0.768)	0.79 (0.507)
b) Socio-demographic attributes							
Age		1.03 (0.191)	1.00 (0.869)	1.02 (0.486)	1.00 (0.860)	**1.37** (0.007)	**1.22** (0.021)
Age squared		1.00 (0.078)	1.00 (0.550)	1.00 (0.226)	1.00 (0.803)	**1.00** (0.008)	**1.00** (0.025)
Last school attended	Elementary	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
	High School	0.96 (0.810)	1.27 (0.102)	0.94 (0.713)	1.28 (0.098)	Ref.	0.55 (0.403)
	Academic	1.00 (0.995)	**1.38** (0.032)	0.94 (0.736)	**1.42** (0.023)	1.66 (0.261)	0.67 (0.561)

Table 2. *Cont.*

c) Beliefs							
"Extra-marital sex" view	Always wrong	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
	Almost always wrong	0.99 (0.918)	**1.40** (0.003)	0.97 (0.845)	**1.30** (0.031)	1.10 (0.832)	**2.84** (0.005)
	Wrong only sometimes	**1.69** (0.001)	**1.62** (0.000)	**1.69** (0.001)	**1.70** (0.000)	1.41 (0.616)	0.91 (0.859)
	Not wrong at all	**2.11** (0.001)	**1.63** (0.007)	**2.10** (0.002)	**1.80** (0.001)	4.49 (0.310)	**0.08** (0.029)
"Homosexual relationship" view		Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
	Always wrong						
	Almost always wrong	0.85 (0.468)	1.35 (0.064)	0.92 (0.698)	1.39 (0.053)	0.29 (0.184)	1.31 (0.630)
	Wrong only sometimes	1.19 (0.297)	1.27 (0.120)	1.18 (0.364)	1.25 (0.175)	1.35 (0.611)	1.60 (0.396)
	Not wrong at all	**1.82** (0.000)	**1.69** (0.000)	**1.82** (0.000)	**1.66** (0.000)	1.97 (0.183)	**2.92** (0.014)
Believe in Heaven	Yes, definitely	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
	Yes, probably	1.47 (0.136)	1.55 (0.171)	1.46 (0.176)	1.70 (0.127)	0.93 (0.919)	2.01 (0.454)
	No, probably not	**3.19** (0.000)	**4.02** (0.000)	**2.66** (0.001)	**3.86** (0.000)	**15.55** (0.000)	7.63 (0.072)
	No, definitely not	**6.18** (0.000)	**8.52** (0.000)	**5.78** (0.000)	**7.37** (0.000)	**14.50** (0.005)	**125.76** (0.000)
Believe in Hell	Yes, definitely	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
	Yes, probably	0.99 (0.991)	0.63 (0.206)	0.94 (0.850)	0.59 (0.193)	1.30 (0.776)	0.31 (0.198)
	No, probably not	0.96 (0.885)	0.60 (0.153)	1.02 (0.945)	0.69 (0.333)	0.52 (0.454)	0.12 (0.063)
	No, definitely not	1.03 (0.923)	0.55 (0.070)	0.99 (0.968)	0.68 (0.277)	1.18 (0.865)	**0.024** (0.002)
Believe in Miracles	Yes, definitely	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
	Yes, probably	1.11 (0.624)	1.55 (0.071)	0.98 (0.942)	1.46 (0.136)	2.47 (0.170)	4.24 (0.056)
	No, probably not	**1.85** (0.005)	**2.29** (0.001)	**1.78** (0.012)	**2.06** (0.005)	2.22 (0.258)	**7.84** (0.009)
	No, definitely not	**2.31** (0.000)	**4.12** (0.000)	**2.26** (0.000)	**3.79** (0.000)	2.46 (0.263)	**16.95** (0.001)

Table 2. *Cont.*

MARRIAGE EFFECTS						
Married	**0.48** (0.000)	**0.57** (0.000)	**0.46** (0.000)	**0.59** (0.001)	2.60 (0.245)	0.51 (0.297)
Spouse has same religion as respondent was raised in	**0.43** (0.000)	**0.37** (0.000)	**0.44** (0.000)	**0.36** (0.000)	**0.28** (0.007)	**0.35** (0.009)
Spouse has 'no religion'	**4.23** (0.000)	**6.01** (0.000)	**4.13** (0.000)	**5.77** (0.000)	**6.44** (0.000)	**9.32** (0.000)
SAMPLE SIZE	7895	7258	6287	5660	1608	1598
AIC	2975	3455	2672	3076	309	387
BIC	3233	3710	2915	3315	492	576
Joint significance of age X^2 (*p*-value)	8.27 (0.016)	6.10 (0.047)	8.53 (0.014)	5.67 (0.059)	7.37 (0.025)	5.41 (0.067)

p-values in parenthesis; Ref. means reference category.

Our findings are in line with Bibby [48], who also presented data supporting the positive effect of a religiously heterogeneous household on secularization: the Canadian Census data for 1991 showed (for example) that while only six percent of children born to parents who were both Christian had no religious affiliation, the share rose to 31% if the children were raised by parents with mixed Catholic-Jewish affiliations. However, the notion that childhood socialization factors can predict religion switching[18] is still open to debate, and the literature reports mixed evidence regarding the effect of exposure to religiosity on secularization. Loveland [41], who used the 1988 General Social Survey (GSS), found that joining a church while growing up acted to stabilize religious preferences, but greater levels of childhood religious socialization (measured by attendance of a religious school, Sunday School attendance and saying grace before meals) were not significant deterrents of religious switching (page 152). Sherkat [40] reached similar conclusions regarding the attendance of Sunday Schools and other formal child religious training—they did not reduce the likelihood of religious switching.

Personal socio-economic endowments have a minor effect on disaffiliation. Current age (that represents cohort effects) is significant only for women,[19] with a parabolic (inverted U) relationship between age and disaffiliation. Higher education (academic) positively affects disaffiliation of European men only.[20]

Liberal beliefs are significantly correlated with the probability to convert out; liberal views over extramarital sex relations and homosexual relations increase the probability of converting out, and it is larger for women. Very similar effects were found within the European subsample, but not in the non-European one. One interesting example is that 26% of European males who think that extramarital relationships are not wrong at all convert out. The parallel figure for the non-European males is as low as 4.5%.

Similar effects are observed regarding belief in the religious doctrine of miracles. Non-belief in Heaven leads to an even more pronounced increase in disaffiliation.

There are strong *marriage effects,* related to the spouse's religious affiliation: first, married individuals have a lower probability to convert out (odds ratios of around 0.5), except for the non-European subsample. Married individuals who share the same denomination as their spouses have lower odds of conversion out (odds ratios around 0.4), while those married to a spouse with 'no religion' have much higher odds of conversion out (odd ratios of about four for women and around six

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[18] [49] and [9] are examples of economic approaches to cultural (religious) transmission of values and norms from parents to their offspring.

[19] See last row in Table 2.

[20] Roof [38], based on GSS 1988, also found that religion switchers tended to be male and well educated. A closely related topic is the relationship between education and religious attendance. It appears that it fluctuates highly among countries: In the United States, church attendance rises with education [50]. Sacerdote and Glaeser [51], who examined 69 countries using the General Social Survey (GSS) 1972–1998, reported that in England and France, they found a positive relationship. However, in most countries, there was no significant relationship between education and religious attendance, whereas in the former socialist countries, the connection was generally strongly negative. Te Grotenhuis and Scheepers [52] and Brañas-Garza and Neuman [42] arrived at insignificant coefficients of schooling in mass participation equations for the Netherlands and Spain, respectively.

for men).[21] These results are in line with findings reported in studies on similar topics: Te Grotenhuis and Scheepers [52], who used an event history analysis (based on retrospective data containing information on events that took place in the lives of the respondents since adolescence), found that in The Netherlands, the most significant factor in an attempt to explain disaffiliation was having a partner who does not belong to a religious group. Respondents whose partners were non-members of the church were 12-times more likely to become non-members themselves compared to respondents with a religiously affiliated partner. Voas [54] found that in Britain, religious affiliation tends to be lost following marriage to someone from a different religion.

4. Concluding Remarks

Using ISSP-1998 data, this paper explored the determinants of religious disaffiliation, that is, determinants of individuals who were raised in a particular religion and currently define their religious affiliation as 'no religion'. This is the extreme case of secularization.

Our logit regressions employed a large array of explanatory variables: country specific variables, personal attributes and marriage characteristics. Table 3 summarizes the results.

It was found that the tendency of individuals to leave their religion is:

i. strongly correlated with parental household religious homogamy;
ii. strongly correlated with the spouse's religious characteristics;
iii. highly correlated with beliefs and personal views;
iv. but, only marginally correlated with personal socio-economic features and with country features, except for the country religious diversity, which has a positive effect

Table 3. Summary of regression results: effects of explanatory variables on the probability to convert out.

(+) effects	(-) effects
Country effects	
Residence in a European country	
Religious Pluralism	
Personal attributes	
Orthodox (males)	*Protestant (males)*
Academic education (males)	*Homogamous parental households*
Liberal views	*Intensive church attendance at 12*
Religious disbeliefs	
Marriage effects	
Spouse has 'no religion'	*Married*
	Spouse same religion

[21] What we find is a positive relationship between disaffiliation of the respondent and the affiliation of her/his spouse that has 'no religion'. We do not have information on the date of disaffiliation of the respondent (and his spouse if the spouse is also with 'no religion'), whether it was before or after marriage. It is, therefore, not possible to distinguish between cause and effect: perhaps the subjects converted out when single and, then, naturally, married someone with a 'no religion' affiliation. Regarding marriage effects, see [53].

A comparison of the Bayesian information criteria (BIC) of several models, where we have removed variables by blocks, reinforces our findings. In Tables 4 and 5, we present the BIC of six models, where "X" indicates that the marked block is in the regression. As the Tables clearly indicate, when we remove country, religion or socio-demographic variable blocks, the models improve; that is, BIC is lower than in the full model. On the other hand, when belief or marriage variable blocks are removed, the models are poorer. It, therefore, appears that the close intimate relationship with parents and spouse are the major determinants of disaffiliation. The basic results are not quite different between the larger sample, which is composed of respondents from diverse different religions and the European and non-European subsamples. This similarity suggests that the disaffiliation phenomenon has common universal elements.

Table 4. Bayesian information criteria (BIC) for females, all countries.

	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6
COUNTRY SPECIFIC VARIABLES	X		X	X	X	X
RELIGION VARIABLES	X	X		X	X	X
SOCIO-DEMO VARIABLES	X	X	X		X	X
BELIEF VARIABLES	X	X	X	X		X
MARIAGE VARIABLES	X	X	X	X	X	
BIC	3233	3199	3177	3206	3522	3505

Table 5. BIC for males, all countries.

	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	MODEL 6
COUNTRY SPECIFIC VARIABLES	X		X	X	X	X
RELIGION VARIABLES	X	X		X	X	X
SOCIO-DEMO VARIABLES	X	X	X		X	X
BELIEF VARIABLES	X	X	X	X		X
MARIAGE VARIABLES	X	X	X	X	X	
BIC	3710	3676	3705	3689	4177	4102

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